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Hakija  
Applicant

Telefonaktiebolaget L M Ericsson  
Stockholm, SE

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Title of invention

"A method and an arrangement for providing a communications network subscriber with an anonymous temporary number"  
(Menetelmä ja järjestely persoonaattoman tilapäisen numeron antamiseksi viestintäverkon tilaajalle)

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Markkula Tehikoski  
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Osoite: Arkadiankatu 6 A Puhelin: 09 6939 500 Telefax: 09 6939 5328  
P.O.Box 1160 Telephone: + 358 9 6939 500 Telefax: + 358 9 6939 5328  
FIN-00101 Helsinki, FINLAND

A METHOD AND AN ARRANGEMENT FOR PROVIDING A COMMUNICATIONS  
NETWORK SUBSCRIBER WITH AN ANONYMOUS TEMPORARY NUMBER

5 Technical field of the invention

The present invention relates in general to communication networks and more specifically to a communications network based method and arrangement for providing a communications network subscriber with an anonymous temporary number.

Background of the invention

15 The background of the invention is discussed briefly in the following.

Anonymous chatting is very popular nowadays. One can do it on the Internet in several forums, GSM chat, on the TV, over GSM and other forums. By 'anonymous' in this context is meant that the people in the chat forum do not (necessarily) know the real identity (name, e-mail address, phone number, etc.) of each other.

25 The problem arises when two parties in the chat forum want to talk to each other on the phone while still wanting to keep their identity secret from the other party.

30 One may imagine two persons A and B who don't know each other chatting either in the TV using SMS or on the Internet using aliases. They would like to call each other to arrange e.g. a date but both of them are too shy to give their real phone number or don't want to give the real number in case the other person turns out to be a troublemaker. This is especially true when the chat is going on

in TV - as then lots of other people might see the real phone number and start harassing.

Already today there exists services that enable anonymous calls to voice chat rooms. Nevertheless, there does not exist services that would enable anonymous phone calls between two parties, where neither calling nor called subscriber knows the other party's real phone number.

- 10 This invention describes how this kind of service could be easily be implemented as an IN service using temporary numbers allocated by subscribers. In this invention report the service is called Anonymous Call Service.
- 15 There is a need for a communications network based method and arrangement for providing a communications network subscriber with an anonymous temporary number.

#### Summary of the present invention

20 It is an object of the present invention to overcome or at least mitigate the disadvantages of the prior art. The present invention realizes a communications network based method and arrangement for providing a communications network subscriber with an anonymous temporary number.

According to a first aspect of the present invention there is presented a method for providing a communications network subscriber with an anonymous temporary number realized in a communications network having a calling party A and a called party B connected to the network, the method comprising the steps of

- the called party B requesting an anonymous temporary number,
- the communications network reserving an anonymous temporary number which anonymous temporary number is asso-

- ciated with the regular subscriber phone number of the called party B in the communications network,
- the communications network providing the anonymous temporary number to the called party B,
  - 5 - the called party B announcing the received anonymous temporary number in an open forum,
  - a calling party A initiating a call to the anonymous temporary number of the called party B in the communications network,
  - 10 - the communications network routing the call to the regular subscriber phone number of the called party B associated with the anonymous temporary number.

Preferably, in the method according to present invention, the called party B requests the anonymous temporary number via Internet. Alternatively, the called party B requests the anonymous temporary number via an SMS-interface (SMS, Short Message Service). Alternatively, the called party B requests the anonymous temporary number via an WAP-interface (WAP, Wireless Application Protocol). Alternatively, the called party B requests the anonymous temporary number by dialing a number in the communications network. Alternatively, the called party B requests the anonymous temporary number via an email-interface.

25 More preferably, the called party B requests several anonymous temporary numbers. More preferably, the called party B announces the received anonymous temporary number in Television. More preferably, the called party B announces the received anonymous temporary number in a restricted open forum.

30 Preferably, in the method according to present invention the restricted open forum is related to the service providing the anonymous temporary number. Preferably, in the method according to present invention the calling party A

initiating a call to the called party B uses a Calling Line Identification Restriction (CLIR) in the call set up. Alternatively, the calling party A initiating a call to the called party B also uses an anonymous temporary number provided by the communications network.

Preferably, in the method according to present invention the called party B may terminate the use of the anonymous temporary number. More preferably, the termination of the use of the anonymous temporary number can be done temporarily.

Preferably, in the method according to present invention the providing of the anonymous temporary number is realized in an IN platform (IN, Intelligent Network).

According to a second aspect of the present invention there is presented an arrangement for providing a communications network subscriber with an anonymous temporary number realized in a communications network having a calling party A and a called party B connected to the network, the arrangement being characterized in that

- the called party B having means for requesting an anonymous temporary number,
- the communications network having means for reserving an anonymous temporary number which anonymous temporary number is associated with the regular subscriber phone number of the called party B in the communications network,
- the communications network having means for providing the anonymous temporary number to the called party B,
- the called party B having means for announcing the received anonymous temporary number in an open forum,
- a calling party A having means for initiating a call to the anonymous temporary number of the called party B in the communications network,

- the communications network having means for routing the call to the regular subscriber phone number of the called party B associated with the anonymous temporary number.

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Preferably, in the arrangement according to present invention the called party B requests the anonymous temporary number via Internet. Alternatively, the called party B requests the anonymous temporary number via an SMS-interface (SMS, Short Message Service). Alternatively, the called party B requests the anonymous temporary number via an WAP-interface (WAP, Wireless Application Protocol). Alternatively, the called party B requests the anonymous temporary number by dialing a number in the communications network. Alternatively, the called party B requests the anonymous temporary number via an email-interface.

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More preferably, called party B requests several anonymous temporary numbers. More preferably, called party B announces the received anonymous temporary number in Television. More preferably, called party B announces the received anonymous temporary number in a restricted open forum.

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Preferably, in the arrangement according to present invention the restricted open forum is related to the service providing the anonymous temporary number. Preferably, in the arrangement according to present invention the calling party A initiating a call to the called party B uses a

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Calling Line Identification Restriction (CLIR) in the call set up. Alternatively, the calling party A initiating a call to the called party B also uses an anonymous temporary number provided by the communications network.

35 Preferably, in the arrangement according to present invention the called party B has means to terminate the use of

the anonymous temporary number. More preferably, the termination of the use of the anonymous temporary number can be done temporarily.

- 5 Preferably, in the arrangement according to present invention the providing of the anonymous temporary number is realized in an IN platform (IN, Intelligent Network).

Detailed description of certain embodiments

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The solution according to the present invention presents a new communications network based method and arrangement for providing a communications network subscriber with an anonymous temporary number.

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This solution describes how this kind of service could be implemented as an IN service using temporary numbers allocated by subscribers. In this patent application the service is called Anonymous Call Service.

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Anonymous Call Service is created as following: A pool of temporary numbers is available in a Service Control Point (SCP). A subscriber can reserve a temporary number e.g. by using web access, dialling a (toll-free) IN-number, by

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SMS, WAP, or the like. The reserved temporary number is associated with the subscribers real phone number in the SCP. A temporary number cannot be associated with more than one number at a time, but one real phone number can be associated with several temporary numbers.

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When a subscriber (A) dials a temporary number allocated to another subscriber (B), the Anonymous Call Service in the SCP replaces the dialled B-number with B's real number. As an alternative, the Anonymous Call Service can

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suppress the A-subscriber number by setting Calling Line Identification Restriction (CLIR) in the call set up mes-

sage, or possibly replace the original A-number with a generic Anonymous Call Service number.

In this way two subscribers will be able to make anonymous phone calls with neither party knowing each other's real phone number.

As long as the calling and called subscriber want to be anonymous to each other, call set up will always go through the anonymous call service, enabling the service provider to generate additional revenue for each anonymous call. Usage of the service can be indicated using existing Call Data Records generated in the network.

The temporary numbers can be used to offer anonymous calls in a network using an IN service, where neither calling nor called party knows each other's real number. The implementation cost of the IN service is very cheap and it can be fully implemented using technology available today.

Considering the popularity of anonymous chatting on the Internet, TV and over GSM, this invention has big several implementation applications. The service is easy to implement and can be deployed in existing GSM/UMTS network in a very short timeframe. This type of service could be advertised for example in Internet chat rooms and TV chat.

In the solution according to the present invention a subscriber can reserve a temporary number or even several temporary numbers using web access or SMS. The temporary number will be associated to the person's real phone number in the SCP.

B gives the temporary number to A. Person A can then call the temporary number reserved by B without actually knowing A's real number. B on the other hand will not know A's

- identity if Calling Line Restriction is applied for A. This is optional: If B doesn't want to have anything to do with A anymore, B can easily get rid of the temporary number and possibly reserve a new temporary number instead.
- 5     This way, A has no way of calling B anymore. The pool of temporary numbers has to be relatively big so that the time interval when the same temporary number is reserved again is big enough.
- 10   Compared to using a calling card, the threshold to start using this kind of service is much lower. The service can be used with an ordinary subscription from anywhere. Chatting on TV and Internet is nowadays extremely popular. The service according to the present invention could be implemented on TV and Internet in chat forums.
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## Claims

1. A method for providing a communications network subscriber with an anonymous temporary number realized in a communications network having a calling party A and a called party B connected to the network, characterized in that the method comprises the steps of
  - the called party B requesting an anonymous temporary number,
  - the communications network reserving an anonymous temporary number which anonymous temporary number is associated with the regular subscriber phone number of the called party B in the communications network,
  - the communications network providing the anonymous temporary number to the called party B,
  - the called party B announcing the received anonymous temporary number in an open forum,
  - a calling party A initiating a call to the anonymous temporary number of the called party B in the communications network,
  - the communications network routing the call to the regular subscriber phone number of the called party B associated with the anonymous temporary number.
- 25 2. A method according to claim 1, characterized in that the called party B requests the anonymous temporary number via Internet.
- 30 3. A method according to claim 1, characterized in that the called party B requests the anonymous temporary number via an SMS-interface (SMS, Short Message Service).
- 35 4. A method according to claim 1, characterized in that the called party B requests the anonymous temporary number via an WAP-interface (WAP, Wireless Application Protocol).

5. A method according to claim 1, characterized in that the called party B requests the anonymous temporary number by dialing a number in the communications network.
- 5 6. A method according to claim 1, characterized in that the called party B requests the anonymous temporary number via an email-interface.
- 10 7.. A method according to any of the claims 1-6, characterized in that the called party B requests several anonymous temporary numbers.
- 15 8. A method according to any of the claims 1-7, characterized in that the called party B announces the received anonymous temporary number in Television.
- 20 9. A method according to any of the claims 1-7, characterized in that the called party B announces the received anonymous temporary number in a restricted open forum.
10. A method according to the claim 9, characterized in that the restricted open forum is related to the service providing the anonymous temporary number.
- 25 11. A method according to any of the claims 1-10, characterized in that the calling party A initiating a call to the called party B uses a Calling Line Identification Restriction (CLIR) in the call set up.
- 30 12. A method according to any of the claims 1-10, characterized in that the calling party A initiating a call to the called party B also uses an anonymous temporary number provided by the communications network.

13. A method according to any of the claims 1-12, characterized in that the called party B may terminate the use of the anonymous temporary number.

5 14. A method according to the claim 13, characterized in that the termination of the use of the anonymous temporary number can be done temporarily.

10 15. A method according to any of the claims 1-14, characterized in that the providing of the anonymous temporary number is realized in an IN platform (IN, Intelligent Network).

15 16. An arrangement for providing a communications network subscriber with an anonymous temporary number realized in a communications network having a calling party A and a called party B connected to the network, the arrangement being characterized in that

- the called party B having means for requesting an anonymous temporary number,
- the communications network having means for reserving an anonymous temporary number which anonymous temporary number is associated with the regular subscriber phone number of the called party B in the communications network,
- the communications network having means for providing the anonymous temporary number to the called party B,
- the called party B having means for announcing the received anonymous temporary number in an open forum,
- 30 - a calling party A having means for initiating a call to the anonymous temporary number of the called party B in the communications network,
- the communications network having means for routing the call to the regular subscriber phone number of the called party B associated with the anonymous temporary number.

17. An arrangement according to claim 16, characterized in that the called party B requests the anonymous temporary number via Internet.

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18. An arrangement according to claim 16, characterized in that the called party B requests the anonymous temporary number via an SMS-interface (SMS, Short Message Service).

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19. An arrangement according to claim 16, characterized in that the called party B requests the anonymous temporary number via an WAP-interface (WAP, Wireless Application Protocol).

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20. An arrangement according to claim 16, characterized in that the called party B requests the anonymous temporary number by dialing a number in the communications network.

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21. An arrangement according to claim 16, characterized in that the called party B requests the anonymous temporary number via an email-interface.

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22. An arrangement according to any of the claims 16-21, characterized in that the called party B requests several anonymous temporary numbers.

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23. An arrangement according to any of the claims 16-22, characterized in that the called party B announces the received anonymous temporary number in Television.

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24. An arrangement according to any of the claims 15-22, characterized in that the called party B announces the received anonymous temporary number in a restricted open forum.

25. An arrangement according to the claim 24, characterized in that the restricted open forum is related to the service providing the anonymous temporary number.

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26. An arrangement according to any of the claims 16-25, characterized in that the calling party A initiating a call to the called party B uses a Calling Line Identification Restriction (CLIR) in the call set up.

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27. An arrangement according to any of the claims 16-25, characterized in that the calling party A initiating a call to the called party B also uses an anonymous temporary number provided by the communications network.

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28. An arrangement according to any of the claims 16-27, characterized in that the called party B has means to terminate the use of the anonymous temporary number.

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29. An arrangement according to the claim 28, characterized in that the termination of the use of the anonymous temporary number can be done temporarily.

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30. An arrangement according to any of the claims 16-29, characterized in that the providing of the anonymous temporary number is realized in an IN platform (IN, Intelligent Network).